

Ship DEC. 02

Work Order ID 153310

153310

Page 1

Tuesday, November 15, 2016 2:33:59 PM

Item ID: 647.1405 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Upper Cutter Assembly
Start Date: 11/15/2016 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 11/25/2016 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan:  Date: 11-16-16 Tooling: Date: Run Start *NR1*
QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
647.1400	C

110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									

1X. DAS 26 9-89 DEC 16 2016

120		0.00							
120									
Small Fab	Memo	0.01							
Small Fab	Assemble as per dwg and apply loctite 598 on all faying surfaces per note 2.								
	A/R RTV LOCTITE 598: 135385								
	exp. date: 04/18								

1X 16/12/17 DAS 36 9-89

130	QC5- Inspect part completeness to step on W/O	0.00							
130									
QC	Memo	0.00							
Quality Control									

① 16-12-20 DAS 9 9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
35				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 153310

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153310

Page 2

Item ID: 647.1405 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Upper Cutter Assembly
Start Date: 11/15/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 11/25/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Identify as per dwg & Stock Location: <u>Ship</u>	0.00							
140									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING THE P# AND REV***								
150	QC21- Final Inspection - Work Order Release	0.00							
150									
QC	Memo	0.02							
Quality Control									

DAS
21
9-89
DEC 20 2016

DAS
21
9-89
DEC 20 2016

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
						QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

Tuesday, November 15, 2016 2:34:22 PM

Page 1

Work Order ID: 153310

153310

Parent Item: 647.1405

647 1405

Parent Item Name: Upper Cutter Assembly

Start Date: 11/15/2016

Required Date: 11/25/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A NEW ISSUE 16-11-15 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

NAS1149FN832P Purchased No

Each 1,463.000

6

NAS1149FN832P

DAS
26
9-89

Washer

Location

Loc Qty

Loc Code

GA

1285

M135058

1285

ST263

178

M135603

178

MS27039-08-19 Purchased No

Each 291.0000

MS27039-08-19

Screw

Location

Loc Qty

Loc Code

GA

182

m135948

182

ST277

109

m135865

9

m136042

100

MS21042L08 Purchased No

Each 1,010.000

MS21042L08

Nut

Location

Loc Qty

Loc Code

GA

50

m135274

50

ST303

960

m135672

1

m135766

159

m135948

300

m135978

500

DEC 16 2016

6k.

3

m136199

DAS
26
9-89

DEC 16 2016

3

m136199

DAS
26
9-89

DEC 16 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
35				Lead hand / Supervisor Approval Verification	
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OTHER : _____					

Picklist Print

Tuesday, November 15, 2016 2:34:22 PM

Page 2

Work Order ID: 153310

153310

Parent Item: 647.1405

647 1405

Parent Item Name: Upper Cutter Assembly

Start Date: 11/15/2016

Required Date: 11/25/2016

Start Qty: 1.00

Required Qty: 1.00

646.9703

Manufactured No

Each

1.0000

646 9703

Cutter Sub Assembly

**

Location

Loc Qty

Loc Code

CCK013

1

148517

1

Each

0.0000

647.1514

Manufactured No

647 1514

Upper Deflector

**

① B154463 36 9-89
B153242 ① 36 9-89
B153323 ①
DEC 16 2016
SP
DEC 16 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

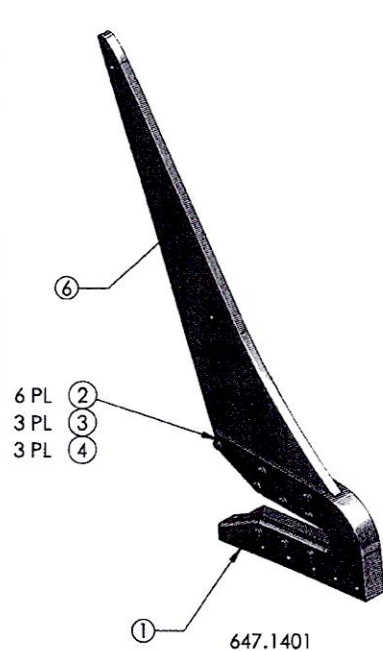
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date: _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

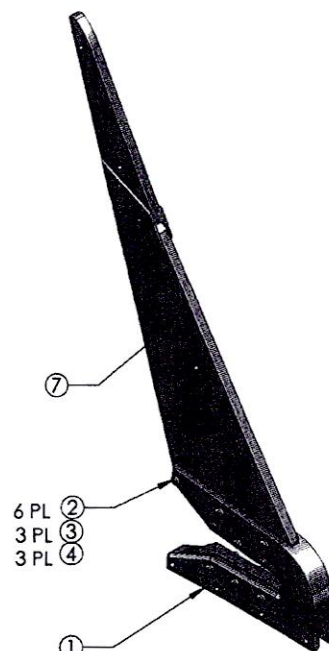
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NOTES:

1. IDENTIFY IAW MPP-120
2. APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 1, 6, & 7 UPON ASSEMBLY



647.1401



647.1402

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE REVISION: PR1		N/C
N/C	INITIAL RELEASE	06/15/09	P. BRAVO
A	INCORPORATED ECN'S 02962 & 03911	06/07/13	P. BRAVO
B	INCORPORATED ECN 05330	02/28/16	P. BRAVO
C	INCORPORATED ECN 05549	11/01/16	P. BRAVO

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO 453310
16-11-16

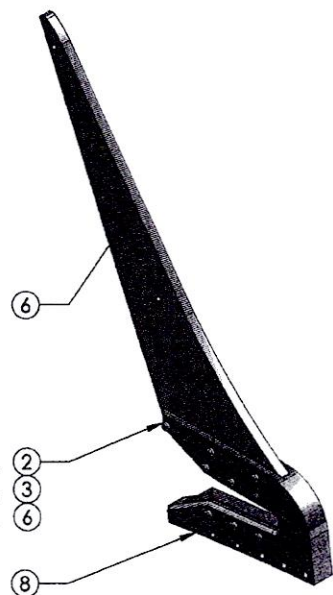
1	-	-	-	-	11	647.1514	UPPER DEFLECTOR		
-	1	-	-	-	10	647.1513	UPPER DEFLECTOR		
1	1	-	-	1	9	646.9703	CUTTER SUB ASSY		
-	-	1	-	-	8	646.9702	CUTTER SUB ASSY		
-	-	-	1	-	7	647.1501			
-	-	1	-	1	6	647.1510	UPPER DEFLECTOR		
A/R	A/R	A/R	A/R	A/R	5	601.2045	RTV, LOCTITE 598		
3	3	3	3	3	4	601.1541	LOCKNUT	MS21042L08	
3	3	3	3	3	3	601.2765	SCREW	MS27039-0819	
6	6	6	6	6	2	601.2764	WASHER	NAS1149FN832P	
-	-	-	1	-	1	646.9701	CUTTER SUB ASSY		
X						647.1405	CUTTER ASSY (UPPER)		
	X					647.1404	CUTTER ASSY (UPPER)		
		X				647.1403	CUTTER ASSY (UPPER)		
			X			647.1402	CUTTER ASSY (LOWER)		
				X		647.1401	CUTTER ASSY (UPPER)		
.1405	.1404	.1403	.1402	.1401	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.

QTY		PARTS LIST	
NEXT ASSY (S)		ORIGINAL DATE	06-15-09
647.1300		DRAWN BY	J. GARDNER
		CHECKED	P. BRAVO
		DRAWING APPROVAL	P. BRAVO
		DATE	06-15-09
		CONTRACT NO.	
		UNLESS OTHERWISE SPECIFIED	
		DIMENSIONS ARE IN INCHES	
		TOLERANCES ARE:	
		2 PLACE DECIMALS ±.01	
		3 PLACE DECIMALS ±.005	
		ANGLES ±.5°	
SIZE	8	SCALE CODE	07M26
DWG. NO.	647.1400		REV. C
SCALE	NONE		SHEET 1 OF 2

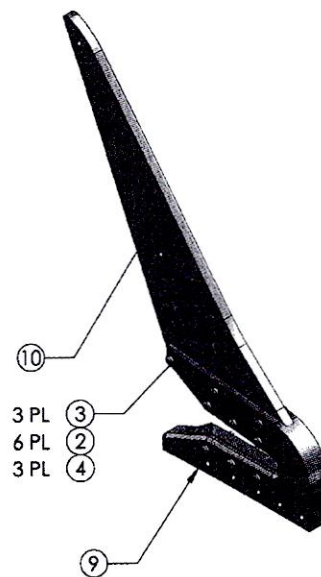
DART AEROSPACE
3030 ENTERPRISE CT., SUITE A
VISTA, CA 92081
(760)-724-5300

CUTTER ASSY

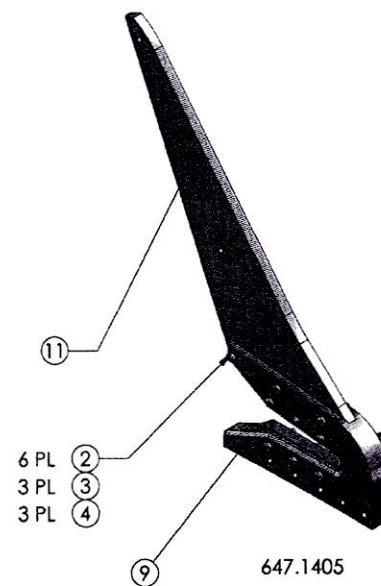
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647.1403



647.1404



647.1405

ORIGINAL DATE 1802-27-01		06-15-09	
DRAWN BY J. GARDNER		CHECKER P. BRAVO	
DRAWING APPROVAL P. BRAVO		06-15-09	
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.3°			
SHEET B	CAGE CODE 07ME6	DWG. NO. 647.1400	REV. C
SCALE NONE		SHEET 2 OF 2	

DART 3030 ENTERPRISE CT., SUITE A
VISTA, CA. 92081
(760)-774-5300
APICAL INDUSTRIES, INC.
DBA DART AEROSPACE

CUTTER ASSY